## REMARKS

The above-identified application is United States application serial number 10/697,821 filed on October 29, 2003. Claims 1-25 are pending in the application. Claims 1-25 are rejected.

### *Rejection of Claims under 35 U.S.C. §101*

Claims 1-25 are rejected under 35 U.S.C. §101 because the claims are directed to a non-statutory subject matter, specifically, the claims are not directed towards the final result that is "useful, tangible and concrete". Applicants have amended the claims to clearly identify a concrete, useful, and tangible result in which the information is managed so that hierarchically inferior storage is used for temporary storage purposes.

Regarding the rejection of Claim 24, claims directed to a computer-readable media encoded with a computer program are patentable under In re Beauregard, 53 F.3d 1583 (Fed. Cir. 1995) because such media are viewed as computer elements that define structural and functional interrelationships between the computer program and the remainder of the computer. The media permit realization of the computer program functionality so that statutory subject matter is claimed since the relationship between the encoded program and the computer are specified.

### *Rejection of Claims under 35 U.S.C. §102*

Claims 1-5 and 10-13, 18-22 and 24-25 are rejected under 35 U.S.C. §102(e) as being anticipated by Matsunami et al. (US Patent No. 6,810,462). Applicants have amended the claims. Claims 1-5, 10-13, and 24-25 distinguish over Matsunami et al which does not disclose "storage devices of at least three distinct types including volatile solid-state and non-volatile disk types in a single array" and "hierarchical storage management [that] selectively controls usage of storage according to distinct storage device type whereby hierarchically inferior storage is used for temporary storage." Claims 18-22 distinguish over Matsunami et al which does not disclose a "disk array containing an hierarchy of disk adapters and coupled storage disks of at least two types and having a respective class hierarchy." Matsunami et al only discloses a single type of disk storage shown as a single type of disks 1700 and an associated single type of disk adapters 1200 in figure 1.

Matsunami et al does disclose "a system [that] must separately manage or control . . . *storage systems* of different types" in which different systems are handled at a network I/O interface level for network attached storage (NAS) and storage area network (SAN) and not at the disk interface level as claimed by the applicants.
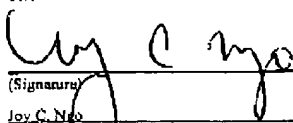
## *Rejection of Claims under 35 U.S.C. §103*

Claims 6-9, 14-17 and 23 are rejected under 35 U.S.C. §103 (a) as being unpatentable over Matsunami et al. (6,810,462) in view of Michael T. Lobue (Michael T. Lobue., Surveying Today's Most Popular Storage Interfaces, 12-2002, IEEE, 0018-9162, page 48-55). Applicants have amended and traverse rejection of the claims. Claims 6-9, 14-17, and 23 distinguish over Matsunami et al in view of Lobue because the combined references to not disclose "storage devices of at least three distinct types including volatile solid-state and non-volatile disk types in a single array" and "disk array containing an hierarchy of disk adapters and coupled storage disks of at least two types and having a respective class hierarchy."
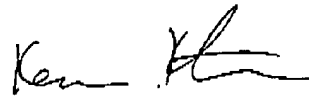
## CONCLUSION

The application, including all remaining Claims 1-25, is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned at (949) 251-0250.

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, Central Number at (571) 273-8300 on the date shown below:

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(Signature)

Joy C. Neo
(Printed Name of Person Signing Certificate)

February 6, 2007
(Date)

Respectfully submitted,

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